

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF INVESTMENT POLICY**

**FOR**

**POOLED STANDARD & POOR'S 500 EQUITY INDEX FUND -  
INTERNALLY MANAGED**

**February 14, 2005**

*This Policy is effective immediately upon adoption and supersedes all previous Pooled Standard & Poor's 500 Equity Index Fund - Internally Managed investment policies.*

**I. PURPOSE**

This document sets forth the investment policy ("the Policy") for the Pooled Standard & Poor's 500 Equity Index Portfolio Fund - Internally Managed ("the Portfolio" or "the Fund"). The design of this Policy ensures that investors, managers, consultants, or other participants selected by the California Public Employees' Retirement System ("the System") take prudent and careful action while managing the Fund. Additionally, use of this Policy provides assurance that there is sufficient flexibility in controlling investment risks and returns while managing small affiliate funds.

**II. STRATEGIC OBJECTIVE**

Obtaining broad domestic equity market exposure by closely tracking the designated benchmark index is the strategic objective of the Fund.

The Fund shall be managed to accomplish the following:

- A.** Enhance the total returns of the overall investment program for the participants of the small affiliate funds through broad U.S. stock market exposure at low cost;
- B.** Deliver the performance results of the U.S. stock market defined as the Standard & Poor's 500 Stock Index, with broad stock diversification for the participants of the small affiliate funds; and
- C.** Consider solely the interest of the Fund's participants and their beneficiaries in accordance with California State Law.

### III. RESPONSIBILITIES AND DELEGATIONS

- A. The System's Investment Committee** ("the Investment Committee") is responsible for approving and amending the Policy. The Committee delegates the responsibility for administering the Pooled S&P 500 Equity Index Fund to the Investment Staff through the Delegation of Authority (Delegation Nos. 89-13 and 95-50).
- B. The System's Investment Staff** ("the Staff") duties include, but are not limited to, the following responsibilities:
1. Developing and recommending the Policy to the System's Investment Committee;
  2. Maintaining a procedures manual which is subject to periodic reviews and updates, outlining Staff operational procedures used in implementing this Policy;
  3. Implementing and adhering to the Policy;
  4. Reporting immediately to the Investment Committee all violations of the Policy with explanations and recommendations;
  5. Purchasing only securities outlined in the Policy; and
  6. Reporting internally to senior management on the implementation of this Policy. This report shall be prepared monthly to include, but is not limited to, the following:
    - a) Current market value of the portfolio; and
    - b) Performance of the portfolio versus the benchmark as reported by the master custodian.
- C. The General Pension Consultant** is responsible for monitoring, evaluating, and reporting to the Investment Committee, at least quarterly, the performance relative to the benchmark and Policy guidelines.

Monitoring shall include placing the portfolio on Watchlist Status using the following criteria:

1. If the realized annual standard deviation of monthly return deviations (tracking error) is greater than 15 basis points but

less than 20 basis points for two consecutive quarters, the Portfolio shall be placed on Watchlist Status.

2. If the realized annual standard deviation of monthly return deviations (tracking error) exceeds 20 basis points for two consecutive quarters, the Portfolio shall remain on Watchlist Status and further review may be required.

#### **IV. PERFORMANCE OBJECTIVE**

The realized annual standard deviation of such monthly return deviations (tracking error) shall be limited to 13 basis points. That is, 67% of such annual deviations of monthly returns shall be 13 basis points or less; 95% of such annual deviations of monthly returns shall be 26 basis points or less.

#### **V. INVESTMENT APPROACHES AND PARAMETERS**

##### **A. Investment Approaches**

The Portfolio shall be constructed in a manner that is consistent with achieving the stated performance objective. This shall necessitate a broadly diversified portfolio managed in a passive index approach with risk characteristics closely resembling the benchmark index. The Portfolio normally holds all 500 securities in the Index. Since holding the exact number of shares in the benchmark can be expensive and cause constant rebalancing, an optimized index approach may be used to create an index that closely resembles the benchmark characteristics. Periodically, the portfolio may consist entirely of derivative instruments to take advantage of mispricing between the cash market and the derivatives market.

The optimization approach to be used for the Portfolio employs a fundamental risk model. Using this model, the Portfolio's risk exposures versus those of the benchmark can be defined and decomposed. Fundamental risk models measure stock returns associated with industry and other fundamental factors such as Price/Earnings (P/E), yield, and market capitalization. Such fundamental factors are often referred to as "common" factors.

A common factor is an element of return that influences many securities and hence is a "common factor" in the returns on those securities. Based on the current estimated Portfolio's exposure to industry and common factors, the volatility of returns can be

measured. The information about volatility produced by a fundamental risk model can be used to evaluate portfolio risk, decompose portfolio risk according to common factor exposures, and evaluate how much of a portfolio's return in a given period was due to each common factor exposure and how much was due to stock selection.

Tracking error can be minimized by maintaining a portfolio's risk characteristics in line with the benchmark. However, a stock market index is a purely mathematical construction. Its performance shall inevitably be different from that of any actual portfolio. Generally, such results occur because indices are constructed mathematically in ways that can never, in practice, be replicated. The following technical reasons describe why a portfolio shall not perfectly track a benchmark index:

1. The index is fully invested at all times. An actual portfolio shall inevitably carry a small amount of cash.
2. The index does not incur any costs, whereas an actual portfolio shall incur transactions costs.
3. The index assumes the dividend is received and its proceeds are reinvested as soon as a stock goes ex-dividend. Thus, the dividend proceeds are assumed to earn the Index rate of return from the ex-dividend date. However, the dividend may not actually be received into the portfolio for several weeks.
4. Published benchmark return calculations vary. Reasons for variations include but are not limited to the differences in calculations of outstanding shares for individual securities, the timing of additions or deletions of members into the benchmark, or the treatment of dividends.
5. Standard & Poor's futures will contain the performance of tobacco stocks, whereas the portfolio will not contain these securities.

## **B. Specific Risk Parameters**

It is expected that the portfolio shall be fully replicated. However, should an event arise such that the portfolio cannot be fully replicated, tolerance ranges must be placed on the portfolio's risk characteristics relative to those of the benchmark. The fundamental

risk model decomposes systematic risk into that associated with six "common factors" and fifteen economic sectors.

The common factors are reported as standardized values (by subtracting the capitalization weighted mean for each stock's common factor value and dividing by the cross sectional standard deviation), thereby allowing comparative analysis between different common factor unit values. The six common factors and their respective tolerance ranges are as follows:

1. **Historical Beta** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
2. **Dividend Yield** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
3. **Market Capitalization** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
4. **Earnings/Price Ratio** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
5. **Market/Book Ratio** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
6. **Interest Sensitivity** - The Portfolio's standardized exposure shall not exceed more than +/- .01 standard deviations from the benchmark's standardized exposure.
7. **Economic Sectors** - The tolerance range for the fifteen economic sectors in the portfolio shall be kept within 35 basis points of the benchmark's exposure. This shall limit monthly tracking error due to each economic sector weighting difference to less than 4 basis points with 95% probability.
8. **Non-systematic Risk (Residual Risk)** - This type of risk is caused by different individual security weightings in the portfolio relative to that of the index. Securities in the portfolio in excess of +/- 3 basis points of the security's

weight in the index shall be screened and evaluated for possible action to decrease/increase the security's weight in the portfolio towards the benchmark weight.

9. **Model Risk** - This type of risk addresses whether the model used to forecast risk produces an unacceptably large bias in the portfolio optimization.

### **C. Restrictions**

All risk characteristics of the Portfolio must be within the permissible ranges specified in Section V.B.

### **D. Permissible Securities**

1. Common stock and ADRs included within the Standard & Poor's 500 Index.
2. The portfolio may temporarily hold common stocks and ADRs, which are not represented in the designated benchmark. Such holdings are justified on the basis of the following criteria:
  - a. Liquidity constraints or excessive transaction costs, such as those required to sell certain securities obtained from corporate actions or from past benchmark reconstitutions;
  - b. Timing of corporate action processing; and
  - c. Expectation of inclusion in the benchmark due to announced changes in benchmark constitution.

### **E. Corporate Actions**

Corporate actions (e.g., tender offers, mergers, Dutch-auctions, and spin-offs) shall be managed on a case-by-case basis.

### **F. Rebalancing and Trading Activity**

It is expected that the Standard & Poor's 500 Equity Index Fund shall be fully replicated. However, if there is a decision to re-balance the portfolio, it shall be primarily based upon analysis of the monthly risk and performance attribution reports. Portfolio rebalancings shall be performed as is deemed necessary to

maintain the portfolio's risk characteristics in line with those of the benchmark. At a minimum, the Portfolio shall be reviewed monthly. Internal Equity Optimizer software shall be used to effect the rebalancings. The normal objective function of the optimization is to reduce systematic and nonsystematic risk of the portfolio relative to the benchmark while minimizing transaction costs.

A variety of trading techniques and liquidity sources shall be utilized to obtain best execution of the approved internal trade list.

## **VI. BENCHMARK**

The benchmark shall be the Standard & Poor's 500 Index excluding tobacco stocks (with dividends reinvested). This benchmark is a capitalization weighted benchmark designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries excluding tobacco stocks.

## **VIII. DERIVATIVES AND LEVERAGE POLICY**

Derivative instruments may be used to facilitate cost and risk management of investments made in stocks publicly traded in the U.S.

### **A. Permitted Strategies**

1. **Substitution:** When the characteristics of the derivative sufficiently parallel those of the cash market instrument, then the derivative may be substituted for the cash market instrument. This strategy is particularly useful when investing cash flow or liquidating investments, as the derivative can be used to manage market entry and exit points more precisely.
2. **Risk Control:** When characteristics of the derivative instrument or a combination of derivatives sufficiently parallel those of the cash market instrument then an opposite position in the derivative can be taken from the cash market instrument to alter the exposure to or the risk (volatility) of the cash instrument. This strategy is useful to manage risk without having to sell the cash instrument.
3. **Arbitrage:** When the price of a derivative is more attractive than either the cash market instrument or another related derivative, then the cheaper derivative shall be purchased or swapped for the cash market instrument to garner the short-

term return potential from the mispriced instrument. This strategy captures mispricing in the derivative instrument relative to either the cash market instrument or another derivative.

**B. Uses**

1. To equitize cash and dividends receivable;
2. To capture mispricings between the futures contract and the underlying basket of securities; and
3. To lower transaction costs.

**C. Restrictions**

1. Leverage is prohibited. The use of derivative instruments as specified in this Policy will not constitute leverage.
2. Uncovered call writing when constituting leverage is prohibited.
3. Traders are limited in their authorization to trade permissible derivative instruments to only the notional value of the portfolio.
4. Speculation is prohibited.
5. The fund is prohibited from transacting in shares of tobacco stocks.

**D. Permissible Derivatives**

Permissible derivatives may include, but are not limited to, the following:

1. Index Futures;
2. Index Options;
3. Options on individual stocks contained in the Index; and
4. Swaps that provide for the receipt of cash flows to equal the rate of return of the S&P 500 Index or any of its constituents.



**E. Permissible Short-term Investments**

Short-term investments are used in connection with the aforementioned Derivatives Policy. For most derivatives, collateral is required for initial margin purposes. The cash in excess of initial margin is then invested in other short-term investments. The following short-term investments are permitted:

1. Investments issued and backed by the full faith and credit of U. S. Treasury;
2. Commercial Paper rated A2/P2 or better; and
3. State Street Investment Fund (STIF).

**F. Counter-party Requirements**

1. Counter-party creditworthiness shall be equivalent to "investment grade" of "A3" as defined by Moody's Investor Service or "A-" by Standard and Poor's. The use of counter-parties holding a split rating with one of the ratings below A3/A- is prohibited. Staff shall notify the Chief Investment Officer if a counter-party is downgraded below A3/A- while an instrument held in the Portfolio is outstanding with the specific counter-party. The use of unrated counter-parties is prohibited.
2. For non-exchange traded derivatives, if the notional amount is greater than the lesser of \$10 million or 1% of the total Fund, then Staff shall not proceed without an opinion from the General Pension Consultant. The General Pension Consultant's positive opinion is required before an investment can be made. The General Pension Consultant shall provide a written opinion on the particular derivative strategy and the Investment Staff shall evaluate the potential counter-party exposure. The Chief Investment Officer and Senior Investment Officer for Public Markets must approve each non-exchange traded derivative transaction in advance.

**G. General Requirements**

1. The proportion of portfolio value invested in derivative instruments can grow to 100% depending on liquidity constraints and the specific strategy employed.

2. Managers must rely on the master custodian to reconcile daily cash and margin positions.

## **IX. GLOSSARY OF TERMS**

The Equities Glossary of Terms is referenced in the System's Master Glossary of Terms.